



C4

1

SEQUENCE LISTING

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TECH CENTER 1600/2900

<110> Azpiroz, Ricardo
Choe, Sunghwa
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<130> 11696-070001

<140> US 09/502,426

<141> 2000-02-11

<150> US 60/119,657

<151> 1999-02-11

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Asn Arg Phe Ile Leu Gln Asn Glu Gly Arg Leu Phe Glu Cys Ser Tyr
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Pro Arg Ser Ile Gly Gly Ile Leu Gly Lys Trp Ser Met Leu Val Leu
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 Phe Cys Thr Ala Leu Leu Arg Trp Asn Gln Val Lys Tyr Asn Gln Lys
 20 25 30
 Asn Leu Pro Pro Gly Thr Met Gly Trp Pro Leu Phe Gly Glu Thr Thr
 35 40 45
 Glu Phe Leu Lys Leu Gly Pro Ser Phe Met Lys Asn Gln Arg Ala Arg
 50 55 60
 Tyr Gly Ser Phe Phe Lys Ser His Ile Leu Gly Cys Pro Thr Ile Val
 65 70 75 80
 Ser Met Asp Ser Glu Leu Asn Arg Tyr Ile Leu Val Asn Glu Ala Lys
 85 90 95
 Gly Leu Val Pro Gly Tyr Pro Gln Ser Met Ile Asp Ile Leu Gly Lys
 100 105 110
 Cys Asn Ile Ala Ala Val Asn Gly Ser Ala His Lys Tyr Met Arg Gly
 115 120 125
 Ala Leu Leu Ser Leu Ile Ser Pro Thr Met Ile Arg Asp Gln Leu Leu
 130 135 140
 Pro Lys Ile Asp Glu Phe Met Arg Ser His Leu Thr Asn Trp Asp Asn
 145 150 155 160
 Lys Val Ile Asp Ile Gln Glu Lys Thr Asn Lys Met Ala Phe Leu Ser
 165 170 175
 Ser Leu Lys Gln Ile Ala Gly Ile Glu Ser Thr Ser Leu Ala Gln Glu
 180 185 190
 Phe Met Ser Glu Phe Phe Asn Leu Val Leu Gly Thr Leu Ser Leu Pro
 195 200 205
 Ile Asn Leu Pro Asn Thr Asn Tyr His Arg Gly Phe Gln Ala Arg Lys
 210 215 220
 Ile Ile Val Asn Leu Leu Arg Thr Leu Ile Glu Glu Arg Arg Ala Ser
 225 230 235 240
 Lys Glu Ile Gln His Asp Met Leu Gly Tyr Leu Met Asn Glu Glu Ala
 245 250 255
 Thr Arg Phe Lys Leu Thr Asp Asp Glu Met Ile Asp Leu Ile Ile Thr
 260 265 270
 Ile Leu Tyr Ser Gly Tyr Glu Thr Val Ser Thr Thr Ser Met Met Ala
 275 280 285
 Val Lys Tyr Leu His Asp His Pro Lys Val Leu Glu Glu Leu Arg Lys
 290 295 300
 Glu His Met Ala Ile Arg Glu Lys Lys Lys Pro Glu Asp Pro Ile Asp
 305 310 315 320
 Tyr Asn Asp Tyr Arg Ser Met Arg Phe Thr Arg Ala Val Ile Leu Glu
 325 330 335
 Thr Ser Arg Leu Ala Thr Ile Val Asn Gly Val Leu Arg Lys Thr Thr
 340 345 350
 Gln Asp Met Glu Ile Asn Gly Tyr Ile Ile Pro Lys Gly Trp Arg Ile
 355 360 365

Tyr Val Tyr Thr Arg Glu Leu Asn Tyr Asp Pro Arg Leu Tyr Pro Asp
 370 375 380
 Pro Tyr Ser Phe Asn Pro Trp Arg Trp Met Asp Lys Ser Leu Glu His
 385 390 395 400
 Gln Asn Ser Phe Leu Val Phe Gly Gly Gly Thr Arg Gln Cys Pro Gly
 405 410 415
 Lys Glu Leu Gly Val Ala Glu Ile Ser Thr Phe Leu His Tyr Phe Val
 420 425 430
 Thr Lys Tyr Arg Trp Glu Glu Ile Gly Gly Asp Lys Leu Met Lys Phe
 435 440 445
 Pro Arg Val Glu Ala Pro Asn Gly Leu Arg Ile Arg Val Ser Ala His
 450 455 460

<210> 21

<211> 444

<212> PRT

<213> Synechocystis sp.

<400> 21

Met Ile Thr Ser Pro Thr Asn Leu Asn Ser Leu Pro Ile Pro Pro Gly
 1 5 10 15
 Asp Phe Gly Leu Pro Trp Leu Gly Glu Thr Leu Asn Phe Leu Asn Asp
 20 25 30
 Gly Asp Phe Gly Lys Lys Arg Gln Gln Gln Phe Gly Pro Ile Phe Lys
 35 40 45
 Thr Arg Leu Phe Gly Lys Asn Val Ile Phe Ile Ser Gly Ala Leu Ala
 50 55 60
 Asn Arg Phe Leu Phe Thr Lys Glu Gln Glu Thr Phe Gln Ala Thr Trp
 65 70 75 80
 Pro Leu Ser Thr Arg Ile Leu Leu Gly Pro Asn Ala Leu Ala Thr Gln
 85 90 95
 Met Gly Glu Ile His Arg Ser Arg Arg Lys Ile Leu Tyr Gln Ala Phe
 100 105 110
 Leu Pro Arg Thr Leu Asp Ser Tyr Leu Pro Lys Met Asp Gly Ile Val
 115 120 125
 Gln Gly Tyr Leu Glu Gln Trp Gly Lys Ala Asn Glu Val Ile Trp Tyr
 130 135 140
 Pro Gln Leu Arg Arg Met Thr Phe Asp Val Ala Ala Thr Leu Phe Met
 145 150 155 160
 Gly Glu Lys Val Ser Gln Asn Pro Gln Leu Phe Pro Trp Phe Glu Thr
 165 170 175
 Tyr Ile Gln Gly Leu Phe Ser Leu Pro Ile Pro Leu Pro Asn Thr Leu
 180 185 190
 Phe Gly Lys Ser Gln Arg Ala Arg Ala Leu Leu Leu Ala Glu Leu Glu
 195 200 205
 Lys Ile Ile Lys Ala Arg Gln Gln Gln Pro Pro Ser Glu Glu Asp Ala
 210 215 220
 Leu Gly Ile Leu Leu Ala Ala Arg Asp Asp Asn Asn Gln Pro Leu Ser
 225 230 235 240
 Leu Pro Glu Leu Lys Asp Gln Ile Leu Leu Leu Leu Phe Ala Gly His
 245 250 255
 Glu Thr Leu Thr Ser Ala Leu Ser Ser Phe Cys Leu Leu Leu Gly Gln
 260 265 270
 His Ser Asp Ile Arg Glu Arg Val Arg Gln Glu Gln Asn Lys Leu Gln
 275 280 285
 Leu Ser Gln Glu Leu Thr Ala Glu Thr Leu Lys Lys Met Pro Tyr Leu
 290 295 300

Asp Gln Val Leu Gln Glu Val Leu Arg Leu Ile Pro Pro Val Gly Gly
 305 310 315 320
 Gly Phe Arg Glu Leu Ile Gln Asp Cys Gln Phe Gln Gly Phe His Phe
 325 330 335
 Pro Lys Gly Trp Leu Val Ser Tyr Gln Ile Ser Gln Thr His Ala Asp
 340 345 350
 Pro Asp Leu Tyr Pro Asp Pro Glu Lys Phe Asp Pro Glu Arg Phe Thr
 355 360 365
 Pro Asp Gly Ser Ala Thr His Asn Pro Pro Phe Ala His Val Pro Phe
 370 375 380
 Gly Gly Gly Leu Arg Glu Cys Leu Gly Lys Glu Phe Ala Arg Leu Glu
 385 390 395 400
 Met Lys Leu Phe Ala Thr Arg Leu Ile Gln Gln Phe Asp Trp Thr Leu
 405 410 415
 Leu Pro Gly Gln Asn Leu Glu Leu Val Thr Pro Ser Pro Arg Pro
 420 425 430
 Lys Asp Asn Leu Arg Val Lys Leu His Ser Leu Met
 435 440

<210> 22
 <211> 519
 <212> PRT
 <213> Zea mays

<400> 22
 Met Leu Gly Val Gly Met Ala Ala Ala Val Leu Leu Gly Ala Val Ala
 1 5 10 15
 Leu Leu Leu Ala Asp Ala Ala Ala Arg Arg Ala His Trp Trp Tyr Arg
 20 25 30
 Glu Ala Ala Glu Ala Val Leu Val Gly Ala Val Ala Leu Val Val Val
 35 40 45
 Asp Ala Ala Ala Arg Arg Ala His Gly Trp Tyr Arg Glu Ala Ala Leu
 50 55 60
 Gly Ala Ala Arg Arg Ala Arg Leu Pro Pro Gly Glu Met Gly Trp Pro
 65 70 75 80
 Leu Val Gly Gly Met Trp Ala Phe Leu Arg Ala Phe Lys Ser Gly Lys
 85 90 95
 Pro Asp Ala Phe Ile Ala Ser Phe Val Arg Arg Phe Gly Arg Thr Gly
 100 105 110
 Val Tyr Arg Ser Phe Met Phe Ser Ser Pro Thr Val Leu Val Thr Thr
 115 120 125
 Ala Glu Gly Cys Lys Gln Val Leu Met Asp Asp Asp Ala Phe Val Thr
 130 135 140
 Gly Trp Pro Lys Ala Thr Val Ala Leu Val Gly Pro Arg Ser Phe Val
 145 150 155 160
 Ala Met Pro Tyr Asp Glu His Arg Arg Ile Arg Lys Leu Thr Ala Ala
 165 170 175
 Pro Ile Asn Gly Phe Asp Ala Leu Thr Gly Tyr Leu Pro Phe Ile Asp
 180 185 190
 Arg Thr Val Thr Ser Ser Leu Arg Ala Trp Ala Asp His Gly Gly Ser
 195 200 205
 Val Glu Phe Leu Thr Glu Leu Arg Arg Met Thr Phe Lys Ile Ile Val
 210 215 220
 Gln Ile Phe Leu Gly Gly Ala Asp Gln Ala Thr Thr Arg Ala Leu Glu
 225 230 235 240
 Arg Ser Tyr Thr Glu Leu Asn Tyr Gly Met Arg Ala Met Ala Ile Asn
 245 250 255

Leu Pro Gly Phe Ala Tyr Arg Gly Ala Leu Arg Ala Arg Arg Arg Leu
 260 265 270
 Val Ala Val Leu Gln Gly Val Leu Asp Glu Arg Arg Ala Ala Arg Ala
 275 280 285
 Lys Gly Val Ser Gly Gly Gly Val Asp Met Met Asp Arg Leu Ile Glu
 290 295 300
 Ala Gln Asp Glu Arg Gly Arg His Leu Asp Asp Asp Glu Ile Ile Asp
 305 310 315 320
 Val Leu Val Met Tyr Leu Asn Ala Gly His Glu Ser Ser Gly His Ile
 325 330 335
 Thr Met Trp Ala Thr Val Phe Leu Gln Glu Asn Pro Asp Met Phe Ala
 340 345 350
 Arg Ala Lys Ala Glu Gln Glu Ala Ile Met Arg Ser Ile Pro Ser Ser
 355 360 365
 Gln Arg Gly Leu Thr Leu Arg Asp Phe Arg Lys Met Glu Tyr Leu Ser
 370 375 380
 Gln Val Ile Asp Glu Thr Leu Arg Leu Val Asn Ile Ser Phe Val Ser
 385 390 395 400
 Phe Arg Gln Ala Thr Arg Asp Val Phe Val Asn Gly Tyr Leu Ile Pro
 405 410 415
 Lys Gly Trp Lys Val Gln Leu Trp Tyr Arg Ser Val His Met Asp Pro
 420 425 430
 Gln Val Tyr Pro Asp Pro Thr Lys Phe Asp Pro Ser Arg Trp Glu Gly
 435 440 445
 His Ser Pro Arg Ala Gly Thr Phe Leu Ala Phe Gly Leu Gly Ala Arg
 450 455 460
 Leu Cys Pro Gly Asn Asp Leu Ala Lys Leu Glu Ile Ser Val Phe Leu
 465 470 475 480
 His His Phe Leu Leu Gly Tyr Lys Leu Ala Arg Thr Asn Pro Arg Cys
 485 490 495
 Arg Val Arg Tyr Leu Pro His Pro Arg Pro Val Asp Asn Cys Leu Ala
 500 505 510
 Lys Ile Thr Arg Val Gly Ser
 515

<210> 23
 <211> 492
 <212> PRT
 <213> Danio rerio

<400> 23
 Met Gly Leu Tyr Thr Leu Met Val Thr Phe Leu Cys Thr Ile Val Leu
 1 5 10 15
 Pro Val Leu Leu Phe Leu Ala Ala Val Lys Leu Trp Glu Met Leu Met
 20 25 30
 Ile Arg Arg Val Asp Pro Asn Cys Arg Ser Pro Leu Pro Pro Gly Thr
 35 40 45
 Met Gly Leu Pro Phe Ile Gly Glu Thr Leu Gln Leu Ile Leu Gln Arg
 50 55 60
 Arg Lys Phe Leu Arg Met Lys Arg Gln Lys Tyr Gly Cys Ile Tyr Lys
 65 70 75 80
 Thr His Leu Phe Gly Asn Pro Thr Val Arg Val Met Gly Ala Asp Asn
 85 90 95
 Val Arg Gln Ile Leu Leu Gly Glu His Lys Leu Val Ser Val Gln Trp
 100 105 110
 Pro Ala Ser Val Arg Thr Ile Leu Gly Ser Asp Thr Leu Ser Asn Val
 115 120 125

His Gly Val Gln His Lys Asn Lys Lys Lys Ala Ile Met Arg Ala Phe
 130 135 140
 Ser Arg Asp Ala Leu Glu His Tyr Ile Pro Val Ile Gln Gln Glu Val
 145 150 155 160
 Lys Ser Ala Ile Gln Glu Trp Leu Gln Lys Asp Ser Cys Val Leu Val
 165 170 175
 Tyr Pro Glu Met Lys Lys Leu Met Phe Arg Ile Ala Met Arg Ile Leu
 180 185 190
 Leu Gly Phe Glu Pro Glu Gln Ile Lys Thr Asp Glu Gln Glu Leu Val
 195 200 205
 Glu Ala Phe Glu Glu Met Ile Lys Asn Leu Phe Ser Leu Pro Ile Asp
 210 215 220
 Val Pro Phe Ser Gly Leu Tyr Arg Gly Leu Arg Ala Arg Asn Phe Ile
 225 230 235 240
 His Ser Lys Ile Glu Asn Ile Arg Lys Lys Ile Gln Asp Asp Asp
 245 250 255
 Asn Glu Asn Glu Gln Lys Tyr Lys Asp Ala Leu Gln Leu Leu Ile Glu
 260 265 270
 Asn Ser Arg Arg Ser Asp Glu Pro Phe Ser Leu Gln Ala Met Lys Glu
 275 280 285
 Ala Ala Thr Glu Leu Leu Phe Gly Gly His Glu Thr Thr Ala Ser Thr
 290 295 300
 Ala Thr Ser Leu Val Met Phe Leu Gly Leu Asn Thr Glu Val Val Gln
 305 310 315 320
 Lys Val Arg Glu Glu Val Gln Glu Lys Val Glu Met Gly Met Tyr Thr
 325 330 335
 Pro Gly Lys Gly Leu Ser Met Glu Leu Leu Asp Gln Leu Lys Tyr Thr
 340 345 350
 Gly Cys Val Ile Lys Glu Thr Leu Arg Ile Asn Pro Pro Val Pro Gly
 355 360 365
 Gly Phe Arg Val Ala Leu Lys Thr Phe Glu Leu Asn Gly Tyr Gln Ile
 370 375 380
 Pro Lys Gly Trp Asn Val Ile Tyr Ser Ile Cys Asp Thr His Asp Val
 385 390 395 400
 Ala Asp Val Phe Pro Asn Lys Glu Glu Phe Gln Pro Glu Arg Phe Met
 405 410 415
 Ser Lys Gly Leu Glu Asp Gly Ser Arg Phe Asn Tyr Ile Pro Phe Gly
 420 425 430
 Gly Gly Ser Arg Met Cys Val Gly Lys Glu Phe Ala Lys Val Leu Leu
 435 440 445
 Lys Ile Phe Leu Val Glu Leu Thr Gln His Cys Asn Trp Ile Leu Ser
 450 455 460
 Asn Gly Pro Pro Thr Met Lys Thr Gly Pro Thr Ile Tyr Pro Val Asp
 465 470 475 480
 Asn Leu Pro Thr Lys Phe Thr Ser Tyr Val Arg Asn
 485 490

<210> 24
 <211> 504
 <212> PRT
 <213> Homo sapiens

<400> 24
 Met Ala Leu Ile Pro Asp Leu Ala Met Glu Thr Trp Leu Leu Leu Ala
 1 5 10 15
 Val Ser Leu Val Leu Leu Tyr Leu Tyr Gly Thr His Ser His Gly Leu
 20 25 30

Phe Lys Lys Leu Gly Ile Pro Gly Pro Thr Pro Leu Pro Phe Leu Gly
 35 40 45
 Asn Ile Leu Ser Tyr His Lys Gly Phe Cys Met Phe Asp Met Glu Cys
 50 55 60
 His Lys Lys Tyr Gly Lys Val Trp Gly Phe Tyr Asp Gly Gln Gln Pro
 65 70 75 80
 Val Leu Ala Ile Thr Asp Pro Asp Met Ile Lys Leu Val Leu Val Lys
 85 90 95
 Glu Cys Tyr Ser Val Phe Thr Asn Arg Glu Pro Phe Gly Pro Val Gly
 100 105 110
 Phe Met Lys Ser Ala Ile Ser Ile Ala Glu Asp Glu Glu Trp Lys Arg
 115 120 125
 Leu Arg Ser Leu Leu Ser Pro Thr Phe Thr Ser Gly Lys Leu Lys Glu
 130 135 140
 Met Val Pro Ile Ile Ala Gln Tyr Gly Asp Val Leu Val Arg Asn Leu
 145 150 155 160
 Arg Arg Glu Arg Glu Thr Gly Lys Pro Val Thr Leu Lys Asp Val Phe
 165 170 175
 Gly Ala Tyr Ser Met Asp Val Ile Thr Ser Ser Ser Phe Gly Val Asn
 180 185 190
 Val Asp Ser Leu Asn Asn Pro Gln Asp Pro Leu Val Glu Asn Thr Lys
 195 200 205
 Lys Leu Leu Arg Phe Asp Phe Leu Asp Pro Phe Phe Leu Ser Ile Thr
 210 215 220
 Val Phe Pro Phe Leu Ile Pro Ile Leu Glu Val Leu Asn Ile Cys Val
 225 230 235 240
 Phe Pro Arg Glu Val Thr Asn Phe Leu Arg Lys Ala Val Lys Arg Met
 245 250 255
 Lys Glu Ser Arg Leu Glu Asp Thr Gln Lys His Arg Val Asp Phe Leu
 260 265 270
 Gln Leu Met Ile Asp Ser His Lys Asn Ser Lys Glu Thr Glu Ser His
 275 280 285
 Lys Ala Leu Ser Asp Leu Glu Leu Val Ala Gln Ser Ile Ile Phe Ile
 290 295 300
 Phe Ala Gly Tyr Glu Thr Ser Ser Val Leu Ser Phe Ile Met Tyr
 305 310 315 320
 Glu Leu Ala Thr His Pro Asp Val Gln Gln Lys Leu Gln Glu Glu Ile
 325 330 335
 Asp Ala Val Leu Pro Asn Lys Ala Pro Pro Thr Tyr Asp Thr Val Leu
 340 345 350
 Gln Met Glu Tyr Leu Asp Met Val Val Asn Glu Thr Leu Arg Leu Phe
 355 360 365
 Pro Ile Ala Met Arg Leu Glu Arg Val Cys Lys Lys Asp Val Glu Ile
 370 375 380
 Asn Gly Met Phe Ile Pro Lys Gly Trp Val Val Met Ile Pro Ser Tyr
 385 390 395 400
 Ala Leu His Arg Asp Pro Lys Tyr Trp Thr Glu Pro Glu Lys Phe Leu
 405 410 415
 Pro Glu Arg Phe Ser Lys Lys Asn Lys Asp Asn Ile Asp Pro Tyr Ile
 420 425 430
 Tyr Thr Pro Phe Gly Ser Gly Pro Arg Asn Cys Ile Gly Met Arg Phe
 435 440 445
 Ala Leu Met Asn Met Lys Leu Ala Leu Ile Arg Val Leu Gln Asn Phe
 450 455 460
 Ser Phe Lys Pro Cys Lys Glu Thr Gln Ile Pro Leu Lys Leu Ser Leu
 465 470 475 480
 Gly Gly Leu Leu Gln Pro Glu Lys Pro Val Val Leu Lys Val Glu Ser

Arg Asp Gly Thr Val Ser Gly Ala
500

485

490

495

<210> 25
<211> 575
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus sequence

<221> VARIANT
<222> (1)...(575)
<223> Xaa = Any Amino Acid or No Amino Acid

<400> 25

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10						15		
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			20					25						30			
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Leu	Leu	Ser	Xaa	Xaa	Ala	Leu	Xaa	Val	Xaa		
			35				40					45					
Leu	Xaa	Leu	Ala	Ala	Arg	Arg	Xaa	Xaa	Xaa	Arg	Tyr	Xaa	Xaa	Xaa	Xaa		
			50			55					60						
Xaa	Xaa	Xaa	Xaa	Arg	Arg	Lys	Xaa	Leu	Pro	Pro	Gly	Thr	Met	Gly	Leu		
65					70					75					80		
Pro	Xaa	Leu	Gly	Glu	Thr	Leu	Gln	Phe	Leu	Lys	Xaa	Xaa	Xaa	Xaa	Xaa		
				85				90						95			
Xaa	Pro	Gly	Asp	Phe	Xaa	Lys	Glu	Arg	Val	Xaa	Xaa	Tyr	Gly	Xaa	Xaa		
			100				105						110				
Xaa	Xaa	Ile	Tyr	Lys	His	Leu	Phe	Gly	Glu	Pro	Thr	Ile	Xaa	Ser	Xaa		
		115				120						125					
Asp	Ala	Glu	Leu	Asn	Arg	Phe	Xaa	Leu	Xaa	Asn	Glu	Gly	Xaa	Lys	Leu		
		130				135					140						
Phe	Xaa	Cys	Xaa	Xaa	Pro	Ala	Ser	Xaa	Xaa	Gly	Xaa	Leu	Gly	Lys	Xaa		
145					150					155					160		
Ser	Leu	Xaa	Ala	Xaa	Xaa	Gly	Xaa	Glu	His	Lys	Arg	Met	Arg	Xaa	Leu		
			165					170						175			
Leu	Xaa	Ser	Xaa	Phe	Ser	Xaa	Xaa	Xaa	Xaa	Leu	Asp	His	Xaa	Leu	Pro		
			180				185					190					
Xaa	Ile	Asp	Arg	Xaa	Val	Arg	Ser	Xaa	Leu	Xaa	Xaa	Trp	Xaa	Xaa	Xaa		
		195				200						205					
Xaa	Gln	Lys	Xaa	Xaa	Ile	Val	Xaa	Xaa	Xaa	Xaa	Glu	Xaa	Lys	Lys	Met		
		210				215					220						
Thr	Phe	Asp	Xaa	Xaa	Xaa	Lys	Xaa	Xaa	Met	Gly	Xaa	Xaa	Pro	Xaa	Xaa		
225					230					235					240		
Glu	Xaa	Thr	Xaa	Xaa	Xaa	Xaa	Leu	Val	Xaa	Glu	Xaa	Glu	Xaa	Leu	Ile		
			245					250						255			
Lys	Gly	Leu	Phe	Ser	Leu	Pro	Ile	Asn	Leu	Pro	Xaa	Thr	Ala	Tyr	Xaa		
			260				265						270				
Lys	Ala	Leu	Xaa	Ala	Arg	Ala	Phe	Xaa	Xaa	Ala	Xaa	Leu	Glu	Xaa	Xaa		
		275				280						285					
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Ile	Xaa	Glu	Xaa	Arg	Xaa	Glu	Glu		
		290				295				300							
Glu	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa		
305				310					315						320		

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Xaa Xaa Xaa Xaa Xaa Xaa Asp Asp Leu Leu Gly Leu Leu Xaa Ala Xaa
      325                      330                      335
Xaa Xaa Xaa Xaa Xaa Glu Asp Glu Xaa Xaa Xaa Xaa Leu Ser Asp Xaa
      340                      345                      350
Glu Ile Xaa Asp Xaa Ile Xaa Xaa Leu Leu Phe Ala Gly His Glu Thr
      355                      360                      365
Thr Ser Ser Xaa Leu Xaa Xaa Ala Val Lys Phe Leu Xaa Glu His Pro
      370                      375                      380
Asp Val Xaa Glu Xaa Leu Arg Glu Glu His Xaa Ala Ile Xaa Arg Ala
      385                      390                      395                      400
Lys Lys Xaa Xaa Xaa Glu Ser Xaa Leu Thr Xaa Xaa Asp Tyr Lys Lys
      405                      410                      415
Met Xaa Tyr Thr Xaa Cys Val Ile Asn Glu Thr Leu Arg Leu Ala Xaa
      420                      425                      430
Ile Val Gly Gly Xaa Phe Arg Xaa Ala Xaa Lys Asp Val Glu Ile Asn
      435                      440                      445
Gly Tyr Xaa Ile Pro Lys Gly Trp Lys Val Xaa Tyr Ser Ile Arg Ala
      450                      455                      460
Val His Leu Asp Pro Asp Xaa Tyr Pro Asp Pro Glu Lys Phe Asn Pro
      465                      470                      475                      480
Xaa Arg Trp Xaa Xaa Lys Xaa Xaa Xaa Xaa Ser Asn Ser Xaa Xaa Xaa
      485                      490                      495
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asn Xaa Xaa Pro Phe Gly Gly Gly Pro
      500                      505                      510
Arg Leu Cys Pro Gly Lys Glu Leu Ala Lys Leu Glu Met Xaa Val Phe
      515                      520                      525
Leu His Arg Leu Val Gln Xaa Phe Trp Glu Leu Ala Xaa Xaa Xaa Asp
      530                      535                      540
Xaa Xaa Xaa Lys Leu Val Xaa Phe Pro Thr Xaa Arg Pro Xaa Asp Asn
      545                      550                      555                      560
Leu Pro Ile Lys Val Xaa Xaa Arg Asp Xaa Xaa Xaa Xaa Xaa Xaa
      565                      570                      575

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<210> 26

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Heme binding domain

<221> VARIANT

<222> 4

<223> Xaa = Ala, Ser, or Val

<221> VARIANT

<222> 8

<223> Xaa = Any Amino Acid

<221> VARIANT

<222> 10

<223> Xaa = Pro, Ala, or Val

<400> 26

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Pro Phe Gly Xaa Gly Arg Arg Xaa Cys Xaa Gly
1           5           10

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<210> 27
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heme binding domain

<400> 27
 Pro Phe Gly Gly Phe Pro Arg Leu Cys Pro Gly Lys Glu Leu
 1 5 10

<210> 28
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Signature sequence

<221> VARIANT
 <222> 1,13,15,16
 <223> Xaa = Any Amino Acid

<400> 28
 Xaa Leu Leu Phe Ala Gly His Glu Thr Thr Ser Ser Xaa Ile Xaa Xaa
 1 5 10 15
 Ala

<210> 29
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary sequence

<400> 29
 Pro Phe Gly Gly Gly Pro Arg Leu Cys Ala Gly
 1 5 10

<210> 30
 <211> 6
 <212> PRT
 <213> Arabidopsis thaliana

<400> 30
 Ala Gly His Glu Thr Ser
 1 5